

UXPin

# UX Design in Action

How Successful Companies  
Design Their Products

Featuring Slack, Autodesk,  
Kaplan, Sumo Logic, and 3M

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## Authors



Uri Ashano is a Senior UX Manager at [Autodesk](#). Previously, he was a Product Manager of UX at AT&T and SAP. He has a BA in Behavioral Sciences from Ben Gurion University and an MA in Interactive Art from the Royal College of Art.



Diogenes Brito is a Product Designer and Engineer at [Slack](#). Previously, he was a UX Designer at Squarespace and LinkedIn. He graduated from Stanford University with a BA in Product Design. Feel free to browse his [work](#) and [resume](#).



[Laura Kershaw](#) is a Lead Product Designer at [Kaplan Test Prep](#). Previously, she was a Senior UX Designer at Starwood Hotels. She is Agile-certified and holds an MA in Architecture from the Savannah College of Art and Design.



Daniel Castro is a Design Director at [Sumo Logic](#). He has over 15 years of experience in strategic, operational, and product design leadership. Previously he served in design and leadership roles at Sephora, Walmart, Verizon, and TIBCO Software.



Andy Vitale is a Lead Interaction Designer at [3M Health Care](#). Previously, he was a UX Architect at Belk and Office Depot. [Follow him on Twitter](#)

# Introduction

UX theory and UX practice can be two different worlds.

We have user-centered design and design thinking taught in traditional UX programs. We have the fast-paced principles of Agile UX and Lean UX. And we have all the endless techniques in between that help us move from idea to validated design.

What actually works? How do UX professionals and leaders really practice their craft in successful companies?

In this guide, we'll lift the curtain on UX design within some of today's most successful companies. You'll see a wide spectrum of UX processes ranging from informal activities to highly structured design techniques.

As the co-founder of [UXPin](#) (a collaborative design platform), I've spoken with hundreds of from startups to large corporations to learn about their processes. I've seen that the best designers aren't a slave to a single process. They build up a large toolbox of skills and processes, but they always adapt to the specific project constraints, user goals, and business goals.

A few patterns, however, always emerge:

- **Collaboration beyond lip service** – Whether it's the kickoff or hi-fi prototyping, the whole product team involves stakeholders

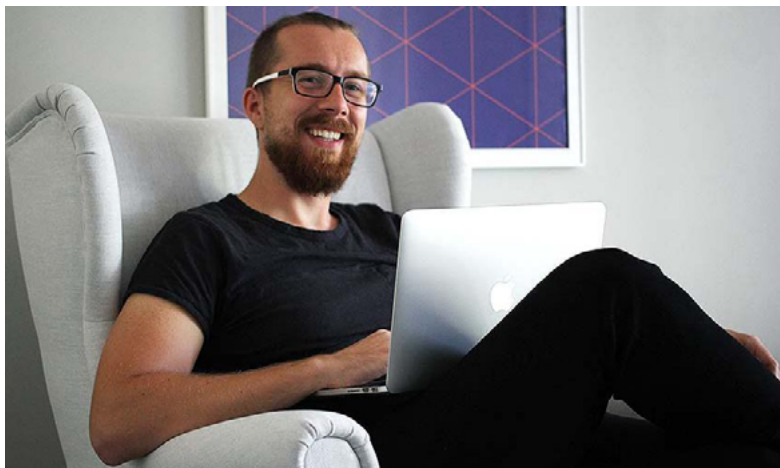
for ideas and feedback. A clear product lead then makes the call on which decisions to implement.

- **User-driven quality** – Teams conduct user research before the project, during the project, and sometimes even dogfood the product themselves. They always test the risky ideas.
- **Outcomes over outputs** – Instead of acting as just a lagging indicator, every piece of documentation drives decisions. Teams are then freed up for more exploration and testing.

While the exact execution differs based on the company, you'll see how top companies like Autodesk, Slack, Kaplan, Sumo Logic, and 3M Health built their culture and processes on these same principles.

Our team has distilled hours of interviews with each company into just the most practical methods.

I hope this guide will help you continue building your toolbox to adapt to our changing world of design.



Marcin Treder, CEO and co-founder of UXPin

# Discovery-Driven Enterprise UX Design

Autodesk

At [Autodesk](#), the company's design teams are as global as its customer base. The \$2.5 billion-dollar software giant is powered by 7700 employees across all 7 continents.



In the Tel Aviv office, Uri Ashano serves as the senior UX manager for [AutoCAD 360](#), the mobile application of the company's flagship product. Uri and his team of five (two UX designers, two visual designers

and one researcher) collaborate closely with the San Francisco HQ to practice user-centered design within an Agile process.

As Uri explains, the company sees itself as a knowledge house, not just a software provider. All designers train and work with the [Luma Innovation Institute](#), which teaches 36 different methods for user-centered design. The design process Uri and team follow each time they get new feature requests illuminates the power of collaborative design, especially in the discovery stage.

## Research the Problem

The Tel Aviv team's process begins when they get a request from the larger AutoCAD 360 team for a new feature.

The request usually presents itself as a user scenario such as: “An architect needs an AUTOCAD drawing at his job site. He’s bringing along an iPad (or other tablet) and wants to view his drawings, modify, and annotate. Afterwards, he wants to share the updates with colleagues.” In response, the team first opens a new project in [Slack](#) to start investigating the problem the feature aims to solve. This initial research consists of interviewing local architect firms, reviewing customer support tickets for ideas, and reviewing online data in [MixPanel](#). The team also consults data from the greater Autodesk’s research, mostly around multiplatform use of AutoCAD and the flows related to these products.

“We always examine incoming request from a user-centric mindset,” Uri explains. “We pull out the low-hanging fruit and then focus on the riskier elements that we can go after. These user stories are always our starting point to design.”

## Deeper Discovery

Once a vision for the feature(s) emerge, the team moves quickly into the discovery mode. This period of design is one of the most intense and collaborative for the team—as Uri says, “we don’t want to lose any creative minds in the process”.

Rather than sending designers off with specific projects, Uri engages all team members together to explore ideas. By exploring these ideas in half or full day workshops, the team collectively decides which are worth actually moving forward with as epics, breaking them down further into user stories.

“Working together, we can get twenty great ideas in twenty minutes,” Uri says “Our collaborative brainstorming is far more effective than if we sent designers off to think on their own.”

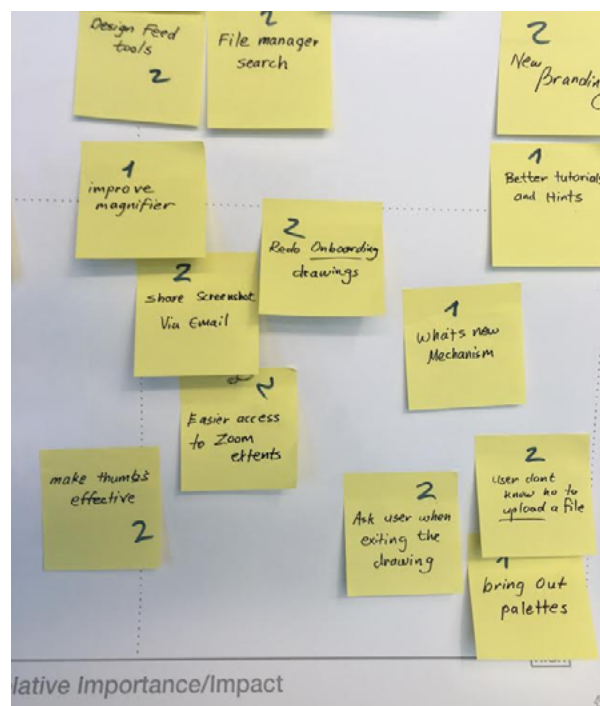
Using bullseye diagrams, [pains vs. gains charts](#), and [Impact vs. Feasibility matrices](#), the team starts to map out customer needs and prioritize ideas. As the ideas populate the different diagrams and charts, team members (including product managers and developers) also add smiley or sad faces next to the concepts.





*Bullseye Diagram used by Autodesk*

Uri notes that the earlier they can ingrain developers and product managers in decision making, the better. In fact, this is why the teams are also physically located near each other, sharing meeting spaces and much time together.



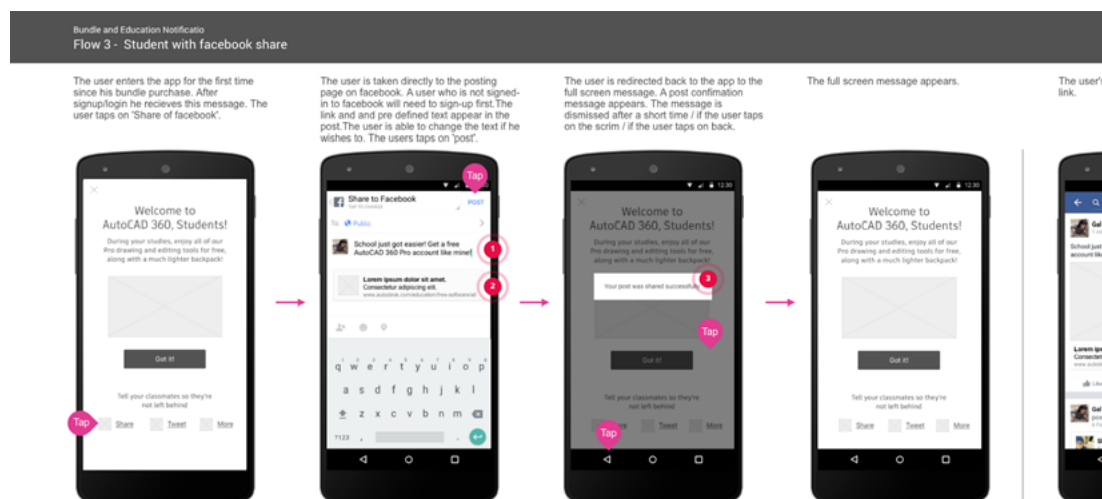
*Feasibility vs. Impact chart used by Autodesk*

From the team's work with Luma Institute, they also use up to 10 other brainstorming methods such as [affinity maps](#) and eyeball diagrams. At this point in the process, sketching remains minimal with all the focus on idea generation through sticky notes.

Only when there is firm agreement on the overall feature set will a designer start to sketch in greater detail. And, following the Agile UX process, the team will leave the stage of deep discovery with epics, user stories, and a backlog that they can revisit for more ideas.

## Designing the Solutions

Once the rough feature sets are decided, the team holds a formal kickoff. From there, long brainstorms are replaced by focused daily stand-ups that involve only people essential to the work being done.



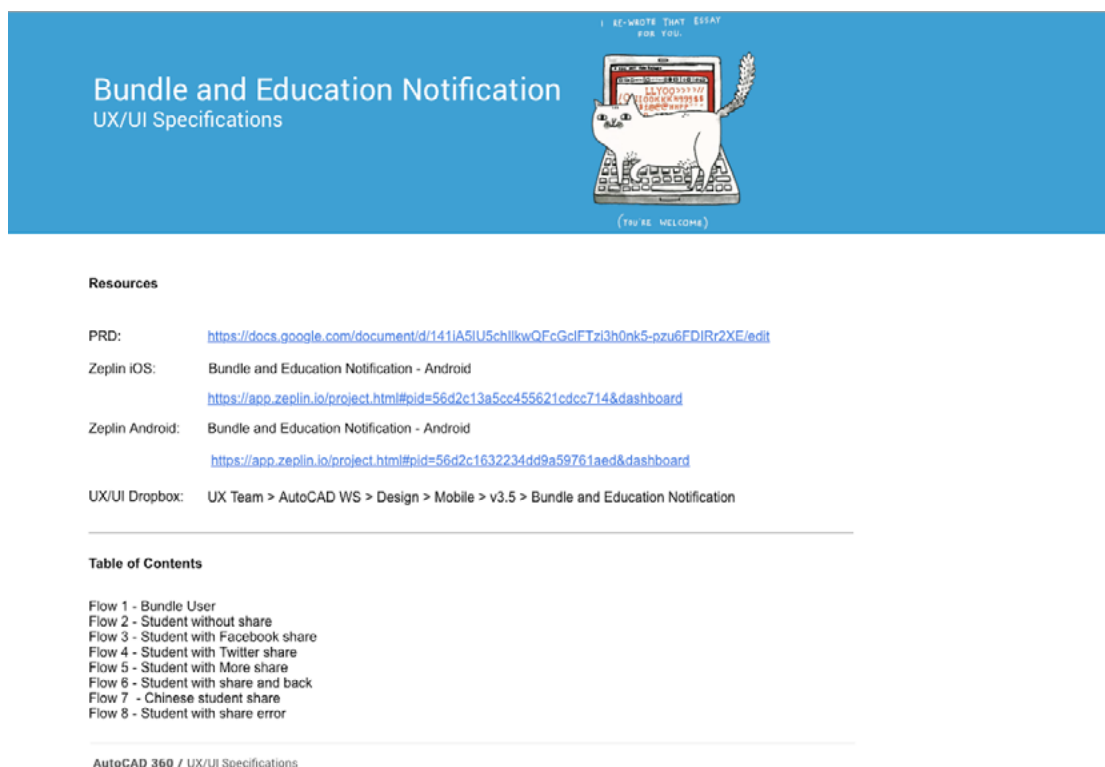
User flow created in [UXPin](#) by Autodesk's AutoCAD 360 team

Once the team members divide to conquer their specific tasks, the group starts designing collaboratively with early wireframes and user



flows for each user story. Some designers create the wireframes in the platform, while others will import them from Sketch. To speed up the process for his team, Uri created templates in the platform to easily show the flow between 5-6 screens at a time.

As the designers start mapping out their flows, the developers will also be wrapping up their technical research. To consolidate their knowledge, the AutoCAD 360 product team now creates a lightweight PRD that focuses on guidelines over prescriptions. The technical details are contained in Dropbox and Zeplin links, while the interactive details are reflected in the links to the user flows.



The screenshot shows a Zeplin project page for "Bundle and Education Notification" with the subtitle "UX/UI Specifications". It features a blue header with a cartoon cat sitting on a laptop. Below the header, there is a "Resources" section with links to a PRD document, Zeplin iOS and Android project pages, and a Dropbox link. A "Table of Contents" section lists eight user flows. At the bottom, it says "AutoCAD 360 / UX/UI Specifications".

**Bundle and Education Notification**  
UX/UI Specifications

I RE-WROTE THAT ESSAY FOR YOU.

(YOU'RE WELCOME)

**Resources**

PRD: <https://docs.google.com/document/d/141IA5IU5chllkwQFcGclFTzi3h0nk5-pzu6FDIRr2XE/edit>

Zeplin iOS: Bundle and Education Notification - Android  
<https://app.zeplin.io/project.html#pid=56d2c13a5cc455621cdcc714&dashboard>

Zeplin Android: Bundle and Education Notification - Android  
<https://app.zeplin.io/project.html#pid=56d2c1632234dd9a59761aed&dashboard>

UX/UI Dropbox: UX Team > AutoCAD WS > Design > Mobile > v3.5 > Bundle and Education Notification

**Table of Contents**

- Flow 1 - Bundle User
- Flow 2 - Student without share
- Flow 3 - Student with Facebook share
- Flow 4 - Student with Twitter share
- Flow 5 - Student with More share
- Flow 6 - Student with share and back
- Flow 7 - Chinese student share
- Flow 8 - Student with share error

AutoCAD 360 / UX/UI Specifications

*Product Requirements Document created in [UXPin](#) by Autodesk's AutoCAD 360 team*

“Annotating our user flows is very useful because it lets us get great feedback even in the early stages of conceptual design,” he says. “Everyone can go in—including developers and product managers—and

see how things are created in real-time. Also, since it is extremely hard to create mockups that show the behavior of an iPad, annotations are very helpful for our multi-device storytelling.”

For feedback on the PRD and early concepts, the Tel Aviv team will also share their user flows with the larger AutoCAD 360 team in the U.S., Singapore and Germany. As the Tel Aviv team iterates their wireframes into higher fidelity mockups, they will also hold remote design reviews within the platform.

## **Problem-Solving With Prototypes**

For most designs, the AutoCAD 360 team iterates most wireframes into static hi-fi mockups and then directly to code. In the interest of time, the team only creates prototypes for new interaction models or potentially problematic flows (e.g. ones with multiple transitions).

The fidelity of the prototype depends on the design question. For example, Uri’s team will create lo-fi prototypes if they’re testing a totally new interaction model. On the other hand, they’ll create a hi-fi prototype if they’re testing branding or different color palettes.

For usability testing, the AutoCAD 360 team generally tests with between 5-10 people. Since Ashano and team’s work focuses on specific features within an existing product, the prototyping, testing, and iterating process continues until the system feels refined and complete.

Once a prototype is ready for development, the team will update the PRD again with mentions of any major changes to the interaction models and any links to new prototypes. As the developers build out the feature, the design team revisits the epics, user stories, and backlog for their next sprint.

“[UXPin](#) remains the hub of our design projects,” he says. “If you’re a business analyst, developer, or designer, you can visit the hub and see all the details. As we move into development, they can still easily check how the code reflects the visual specs outlined in the prototypes.”

## Conclusion

Autodesk's Tel Aviv team shows us that enterprise design doesn't need to be bogged down by poor communication and mountains of documentation.

For a more lightweight and strategic design process, consider the following takeaways:

- Validate feature requests with early qualitative research (reviewing support tickets and user interviews) and quantitative research in analytics tools and surveys
- Dedicate time upfront for discovery and ideation with half-day to full-day workshops aimed at defining the rough feature set
- Treat documentation as a knowledge portal rather than a paper trail by linking out to further details
- Prioritize prototyping for the most difficult interaction models.

# The Organic UX Design Process

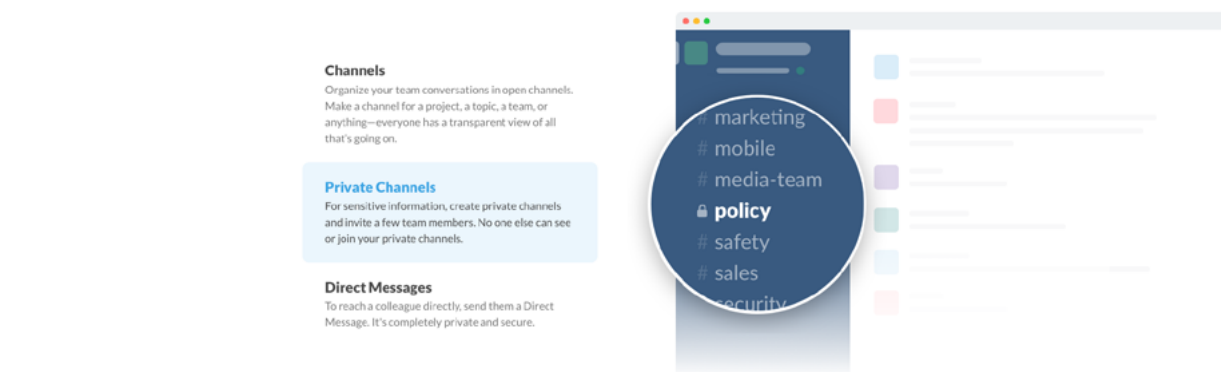
## Slack

Valued at over \$3 billion dollars with 600,000+ paying customers at the start of 2016, [Slack](#) is on a mission to humanize team communication.

Just as Slack aims to improve people's working lives through simplification, it has also inspired an internal design process that mirrors this same free-flowing, organic approach to work.



**Team communication  
for the 21st century.**



The 400-plus employee company has a rare internal resource: a huge, constant pool of employees to user test with. Since all employees across the company dogfood Slack every day for 8+ hours a day, the Slack design team enjoys unprecedented access to constant user feedback and an intimate knowledge of the product.

As a result, Slack's design process mirrors the open, constant communication that the company was created to provide.



## From “A Vaguely Defined Problem Statement” to Product Brief

Diogenes Brito, Product Designer and Engineer at Slack’s San Francisco HQ, explains that most product ideas and feature requests start as “a vaguely defined problem statement” driven either by customer support tickets, feedback within Slack’s product channels and social media, or the company’s own product teams.



Diogenes Brito, Product Designer and Engineer at [Slack](#)

As one of the first steps in solidifying the project, the product manager and designer meet together to record ideas in one place.

This initial document is a product brief that, as Diogenes says, is “really about the spirit of the project, seeking to define the core goal and the nuances of the problem” so everyone has the right context for the follow-up kick-off meeting. The brief is in fact a living document which will evolve throughout the entire process.

Indeed, while the core of the brief will stay the same once the project details are finalized, the brief becomes a focal point for design reviews and serves as an artifact of all that was done once the project is complete. It will even be used as the core asset for final executive review.

The brief not only consolidates ideas down in one place but it also gathers constraints.

Questions covered in the brief include:

- What does the team care about the most?
- What is in scope, and what isn't?
- What does success look like, and how will we measure that?

“The brief is not prescriptive but more about asking the right questions so we can explore in the right way, knowing the boundaries of the problem,” Diogenes explains.

## **The Kickoff**

Once the brief is ready, the lead designer and product manager will hold a kick-off with the larger team. At this point, some preliminary ideas may be covered (and the designer may have completed some exploration with rough mockups or wireframes to act as a visual aid).





Regardless, at the kick-off, the team always reviews the entirety of the brief to ensure everyone fully understands the project and can air their core ideas and concerns.

The kick-off helps everyone understand the design problems and goals, while also discussing any burning ideas. The kick-off is not meant as a free-form brainstorming session.

## Pair Design

Once the kick-off finishes, designers and developers begin their exploration and specification in tandem, checking in with each other in informally throughout the process in Slack.

What is formalized is that designers always work in pairs, with one acting as the lead designer. Diogenes compares the relationship to

the tennis stars Serena and Venus Williams, noting they are both amazing but one person is usually leading and serving.



“Pair design gives you a partner in crime to help you explore ideas more,” Diogenes explains. “It’s two people with similar or complementary skills riffing off each other. Plus when you have two people, it helps you get unstuck faster when you hit a roadblock.”

Both designers work on different design problems, but regularly brainstorm concepts and cross-pollinate ideas. Other team members may also involve themselves with the pair for consensus-building and informal brainstorming, but the team prefers impromptu activities to formally scheduled workshops.

While the designers are exploring concepts, the developers are also exploring relevant parts of the codebase and overall technical constraints. Once the two groups feel confident about their understanding of constraints, the whole team will hold a “post-kickoff” to review the product and technical requirements.

Following the post-kickoff, design critiques happen twice a week. When a designer feels ready, they bring their work for feedback from the larger product team. While the larger team may offer feedback to the design pair, the “lead” designer remains the clear point of contact with the product manager.

This point-person remains in place all the way through final design review, which includes product leadership and the CEO Stewart Butterfield.

## Freedom in Design Tools

Instead of following strict protocol, Slack designers alternate between sketching and low and hi-fi prototypes when designing, using the right tool for the problem at hand.

“The big thing for us is not whether we do a wireframe, mockup, or high fidelity prototypes,” Diogenes explains. “It’s about thinking about the question and using the best tool to arrive at the answer with the least amount of work.”

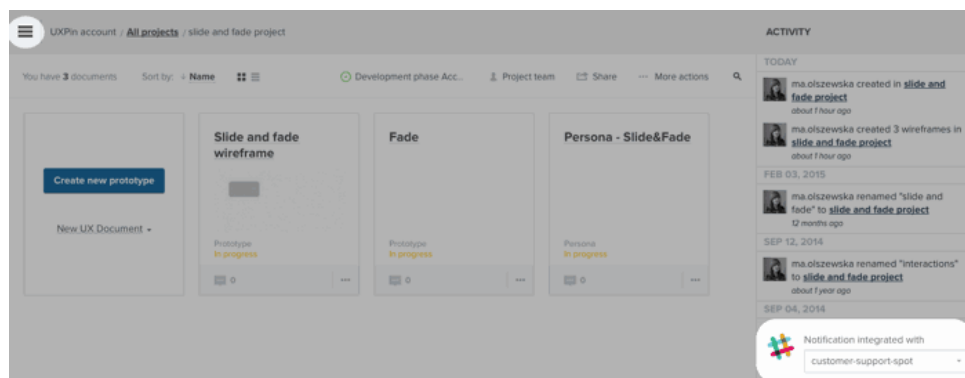


For example, when Diogenes was working on a new auto-complete feature, he created a number of low fidelity prototypes to answer questions around the core interaction model. But when he encountered tricky micro-interactions, he would build working prototypes in code to finalize the details.

“Sometimes we can go right to design from sketching because we know our product so well.” he says. “We use whatever tools we are the fastest in—and that varies from paper, Keynote, HTML, to a collaborative design platform depending on the project.”

### Designer Pro Tip

*When conducting a beta test, consider creating a [Slack](#) channel to simplify collecting feedback from users. During our redesign, User Researcher Ben Kim invited all 50 initial beta testers into a dedicated Slack channel. Every day, feedback was consolidated into a Google Docs spreadsheet with patterns summarized in a beta usability report.*



UXPin and Slack integration

## Dogfooding and Usability Testing

At Slack, usability testing is not usually a separate item in the design process. Instead, user testing is ongoing because of their massive internal user base.

For example when the team decided to add voice calls, they designed and then released the feature internally, rolling it out very slowly in-house and then to an external beta before eventually to the whole user base.

“We use our intuition,” Diogenes explains, “But it is finely tuned because we all use the product for hours every day. User feedback is also regularly trickling in from outside of the company, and everyone serves weekly support shifts to better empathize with customers.”

Indeed, within the walls of Slack HQ in San Francisco, the design team can test different user scenarios with its own departments. Each department acts as a microcosm of the larger customer base.

For example, designers can learn more about how to improve Slack for finance teams by observing and gathering feedback from its own finance department.

In addition to dogfooding, they also regularly prioritize a steady stream of feedback as it trickles into their customer support Slack channel. That said, when they do embark on brand new features or new audiences – such as international or enterprise-sized teams

– the design team will conduct generative field research and more traditional moderated user testing to expand their knowledge.

“Our company is like a 24/7 lab for us,” Diogenes adds. “And because we are all in the product all the time, no issues can just get swept under the rug.”

## **Sprint to the Finish**

Once design is complete, the team moves to a development sprint model. Nonetheless, sprints remain flexible in case unforeseen challenges appear. By the time the product team reaches the sprint stage, most design work is done and the designers focus on offering support and quality control.

Aside from constantly communicating via Slack, the team also holds standups in their channels or in-person as needed.

“Transparency is key to our product and our culture,” Diogenes says. “These same core values inform our design process, making it truly organic and effective. And because we use Slack every day ourselves, new ideas keep coming every day – that’s a serious competitive advantage.”

## Conclusion

Slack's organic design process shows that structured design isn't the option for startups and enterprises. Flexible processes for concept exploration paired with structured development can deliver successful products, so long as regular research and testing validates the progress.

In closing, we offer the following takeaways:

- In a product brief, don't prescribe the solution. Focus more on describing the context around the problem and suggestions for various strategies.
- After the initial product kickoff, allow the team freedom to explore concepts and discover constraints. Merge development and UX insights by then holding a post-kickoff review to formalize constraints.
- If your team structure allows, consider pair design for richer idea generation and faster problem-solving.
- If your company's employees are similar to your target users, regularly dogfood the product for guerilla research. Internal feedback and testing builds a solid foundation of usability knowledge that you can expand through further field research.

# Mobile-First Agile UX

Kaplan Test Prep

Founded in 1938 as a tutoring business out of a New York apartment basement, Kaplan has since grown into a \$2.1 billion-dollar company. Adaptive learning technology now powers all of its digital test prep products, delivering a personalized curriculum tailored to each student's strengths and weaknesses.

Supporting over 90 different types of college and postgraduate standardized tests, Kaplan Test Prep's product design group is responsible for catering to multiple student personas and platforms across various business groups.

As Lead Digital Product Designer, [Laura Kershaw](#) manages and mentors a design team for Kaplan's [Test Prep division](#).

When it comes to digital learning products, the team's challenge lies in balancing templatization versus personalization. For example, someone studying for law school behaves differently than someone applying to medical school - and even within these groups there are varying behaviors.





*Laura Kershaw, Lead Digital Product Designer at Kaplan (left)  
collaborating with Caroline Romedenne, UX Researcher*

To deliver personalized experiences on quick timelines, Laura and her team follow a balanced design process based on three guidelines: Agile collaboration, a mobile-first approach, and regular usability testing.

## Research, Data, and Ideation

At Kaplan, ideas come from multiple sources: customer feedback, internal teams, and external trends and business opportunities.

Kaplan has learned over the years to balance user research, user data, and internal idea generation. Since research alone won't drive innovation, internal teams across Kaplan can suggest changes based on external trends and opportunities.

For example, on a recent project, Laura's team needed to work through a concept aimed at motivating students. Her first step was to explore gamification options with a product manager with gaming industry experience. From there, they pulled in another product manager who works with a larger platform to vet their ideas, then spoke with a larger group (product owner, 2 PMs, lead API developer) for buy-in on the proof of concept.



At this point, a dedicated user researcher dove into a treasure trove of insights gleaned from student surveys, app usage data, and user interviews. The insights not only helped the team understand the key pain points for users and the business, but also started establishing creative boundaries that later became formalized requirements.

Meanwhile, Laura's team might vet the idea further through explorative workshops with the whole team. In the case of the gaming idea, her team tried the following affinity diagramming workshop:

1. Send an agenda days before informing all 6 participants of the design problem (How can we better motivate users?). Ask the participants to send examples of two mobile apps that reflect strong incentivization.
2. On the day of the workshop, start the exercise with a fun game to create an open atmosphere. In this case, the team played the [Heads Up game](#) on their mobile devices instead of physical cards. **10 minutes.**
3. After the warmup, every person on the team explains their likes and dislikes for the two mobile apps they selected. **30 minutes.**
4. Laura notes everyone's reasoning and maps out patterns into categories. In this case, she ended up with 6 categories. **10 minutes.**
5. Laura encourages the team to now write down ideas for each of the 6 categories. **10 minutes.**
6. The team discusses their ideas in each category. **15-20 minutes.**

After the workshop, Laura snaps photos of the results and shares with the larger group.

The team then reviews the ideas against the user research and prioritize them for design sprints. The team prioritizes ideas with the highest user value and business value. Meanwhile, lower priority ideas move to a backburner board, which acts like a backlog for future exploration.



“Product managers don’t just attend workshops to take notes,” Laura explains. “They add a lot to the process as active contributors to our decisions. Everyone comes in with a different background and you never know where great ideas will come from.”

After initial brainstorming, the team schedules UX sprints for deeper exploration and implementation.

## The UX Design Sprint

At Kaplan Test Prep, the first half of the UX sprint focuses on conceptualization, while the latter half focuses on refinement and implementation.

Documentation remains lightweight, with formal product requirements acting as guidelines. For further specifications, the team will check their annotated prototypes.

A 5-day sprint would look like the following, with days stretched out as needed:

- **Day One/Day Two:** Small teams start sketching ideas on paper, based on data from the team researcher and the prior brainstorming session. During the process, designers might ask questions about API and validate ideas against the scope. Meanwhile, product managers start formalizing the product requirements.
- **Day Three:** After a few flows are sketched, the team will create paper prototypes to test with 10 students at the Kaplan office. Based on user validation, the team will also update product requirements as needed.
- **Day Four/ Five:** This next step really depends on the type of project.. If Laura's team is working with an existing product, they might iterate their paper prototype based on feedback from students. They also might pull aside a bite-sized idea for a separate sprint cycle.



It's important to note that the product requirements are flexible. To allow for creative exploration, designers are empowered to work slightly outside of the specifications – as long as they collaborate closely with the product manager.

After the first 5-day sprint, the next sprint will add fidelity and move towards implementation. The team will turn their paper prototype into a digital lo-fi prototype, test with 5-7 students, then iterate to higher fidelity. The more refined the design becomes, the less users the team involves for usability testing.



With a hi-fidelity prototype, the team will test with 5 students to verify that the UI remains understandable (e.g. CTA copy is meaningful, graphics are consistent, and micro interactions are seamless. ). For both the lo-fi and hi-fi prototypes, the team simply visits a local Kaplan testing center and offers Starbucks gift cards in exchange for 10 minutes of testing per student.

“We really see the sprint process as a framework, not something set in stone,” Laura explains. “The most important thing for us is constant user testing to validate our ideas.”

## The True Meaning of “Mobile-First”

Whereas “mobile- first” often simply means working from a product at a smaller canvas size and then scaling to bigger form factors, the Kaplan approach is about overall *function*.

With mobile usage growing in the education sector, the Kaplan team spends significant time developing meaningful standalone (and companion) experiences. It’s one thing to create a product that responds to multiple devices sizes and orientations, but it’s quite another to design something that presents the same information in the most *intuitive* format for the device.



Throughout the design sprints, Laura focuses first on designing a compelling mobile experience that everyone then scales to larger form functions.

For example, a student won't take a 4-hour exam on their mobile device, but they would complete a quick 10 minute quiz. With this in mind, she builds the core mobile feature set, then works with the rest of the team to grow the experience to tablet and desktop. This method also allows Kaplan to move faster with proof of concept because they can test ideas out on a smaller scale, rather than rolling it out onto a larger course-wide product.

“Because our process is mobile-first, it forces people to think more creatively about how to tackle the problems they want to solve,” Laura says. “This results in better products for our students on all devices and computers.”

## **The Role of Collaborative Prototyping**

Likewise, Kaplan is a strong believer in collaborative rapid prototyping to quickly iterate designs. With each iterative prototype that is developed (for web, mobile, or other platforms), the team recognizes more features or elements that might make sense on one platform over another and modify the design in order to best accentuate.

By removing the dependency on reading arduous documentation, she and the team can quickly communicate and trace product decisions.



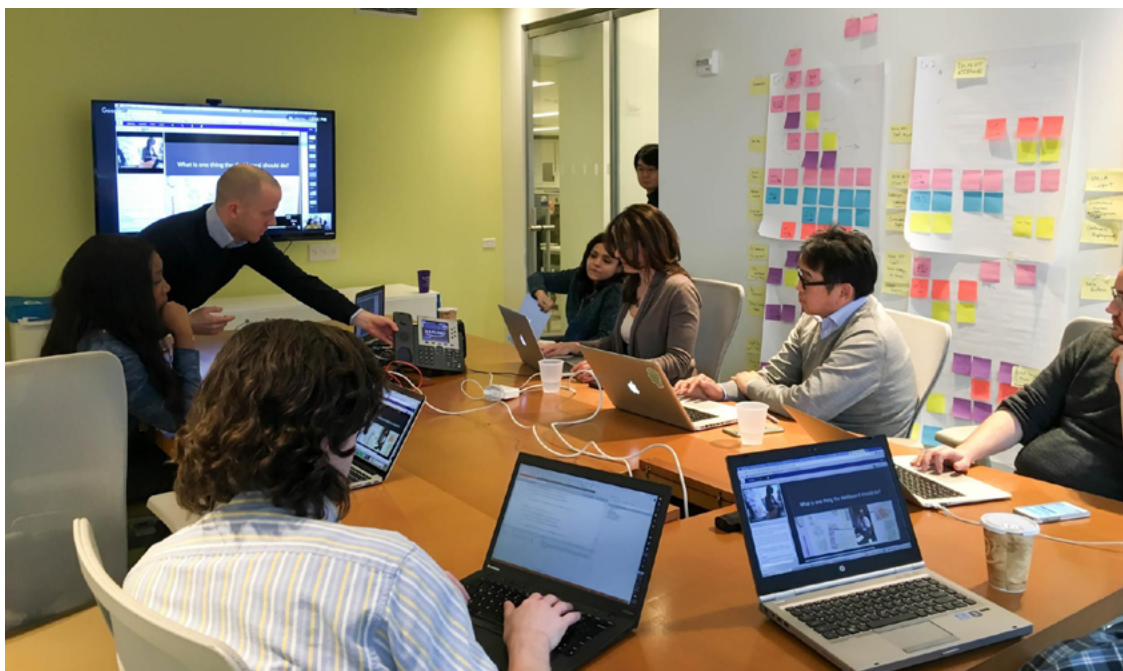
They're freed up to focus more on designing, validating, and iterating the core interaction models.

“[UXPin](#) gives us living documentation of our projects,” Laura says. “You can just check on prototypes to see how things are going. You don’t need to read ten pages of technical documentation.”

## Co-Located Product Teams

Laura came to Kaplan with a background in design and architecture. Aside from product design, Laura’s role also includes mentoring and leading a group of designers as the acting Creative Director.

Since the culture and employee development programs are anything but siloed, one of Laura’s initiatives is redesigning the office to move designers and developers out of their separate bays.



Whereas someone may have started at Kaplan as a web UX specialist, after a few months, they are exposed to other elements of design including UI for web, UX for mobile, and perhaps even some animation work. Due to the open culture at Kaplan Test Prep, the CEO John Polstein himself might even attend some of the design collaboration sessions.

“Everyone I work with is extremely talented and has the potential to be amazing with the right influence,” says Laura. “If given the opportunity to learn and grow, nothing can stop you. The more you know, the more valuable you are, and the better you work as a team.”

## Conclusion

Kaplan’s product design team shows us that creative freedom and Agile UX shouldn’t be enemies. Through collaborative brainstorming, regular user validation, and scalable design sprints, the team can better preserve creative integrity amidst fast timelines.

For an efficient yet creative design process, consider the following takeaways:

- Explore product ideas with parallel paths of user research and ideation, then converge afterwards to define requirements.
- Casual ideation workshops with a clear agenda helps remove fear of “dumb ideas”, encouraging feedback from quiet team members.

- Product documentation acts as guidelines, with some flexibility allowed for creative freedom.
- Collaborative prototyping minimizes paper-trail documentation.
- Test with users as prototype fidelity increases (more users in the beginning, less is acceptable later on).
- Mobile-first product design can help test ideas quickly on a smaller scale.

# The Power of Swarm Design

Sumo Logic

Based in the Bay Area with 250+ employees and \$161 million in venture capital funding, [Sumo Logic](#) serves some of the top enterprises in the world. The company's analytics platform visualizes more than 100 petabytes of data per day, helping businesses harness the power of machine data to streamline operations..

To make the data actionable for customers, Sumo Logic has invested heavily in its own internal UX team to bring a “consumer-grade” experience to the enterprise. In 2015, they hired their first UX team comprised of design leaders, interaction designers, visual designers, and UX architects.

In the beginning, their VP of Design Michael Peachey also defined a clear vision for the UX team: “A Sumo Logic organization where each of us are connected deeply and emotionally to the individuals we serve.” This foundation still drives the purpose of all their collaborative design within the organization.



Photo credit: [Sumo Logic](#)

Across the organization, the design process is defined by design thinking: creating a hypothesis, testing with users, gathering feedback and improving. For Design Director Daniel Castro and team, their unique “Swarm” sessions have been the key collaborative activity connecting all the discovery, design, and iteration.

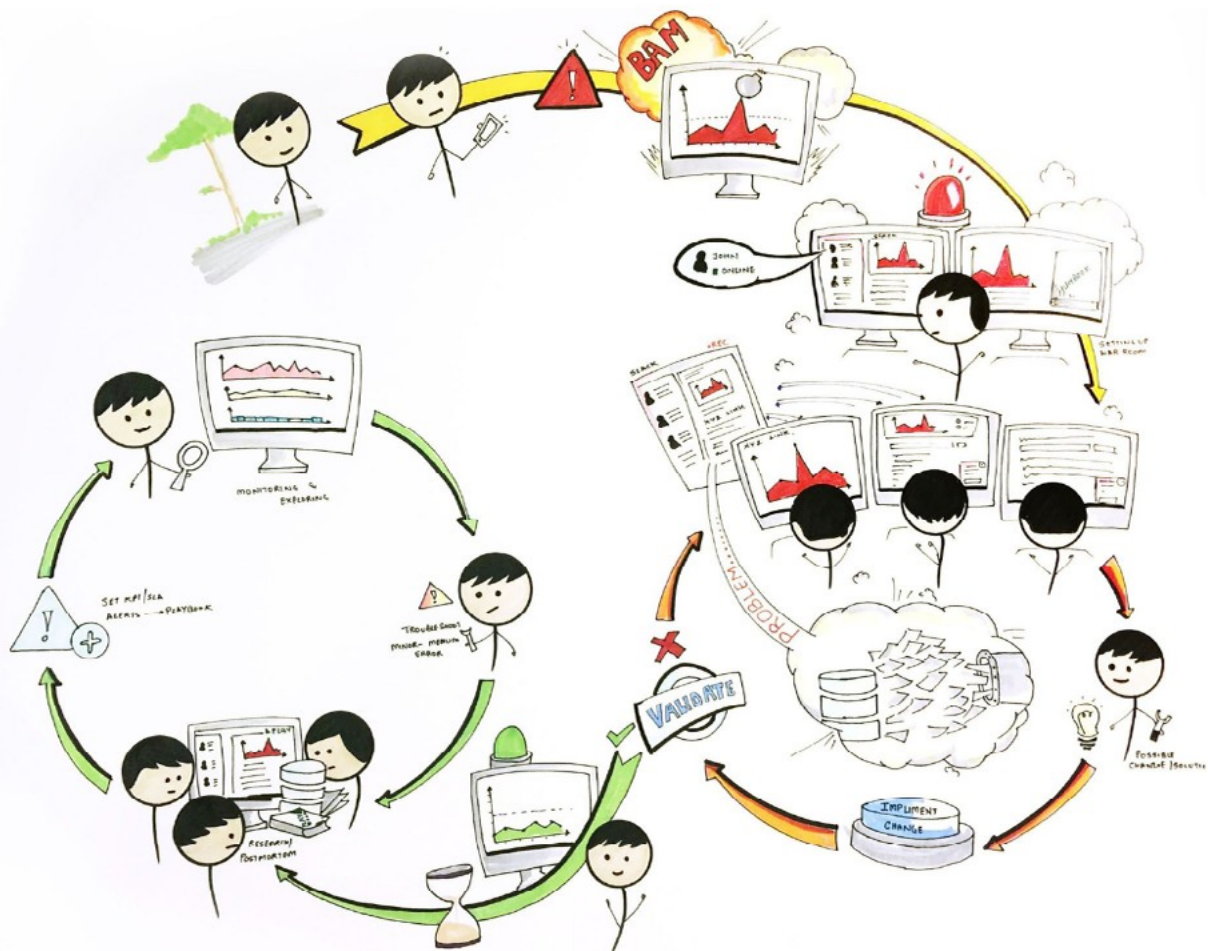
As a result, the product team builds a design culture through immersion rather than preaching.

## Discovery

One of Sumo Logic’s most important first moves is reaching out to the customer success team, who they consider their “brothers in arms”. Daniel tries to interview at least 3-5 users directly to understand their pain points and needs before doing anything else on a project.

After interviews, the design team starts visualizing the feedback and insights.

Daniel and the team will draw out the customer journey through spreadsheets, flow charts and even cartoons. They'll also filter through their early concepts and vet them with a larger group of engineers, product managers and customer success team members.



*Photo credit: Customer journey map created at [Sumo Logic](#) by Nitesh Jain*

For deep exploration of the problem, they might hold a focused “Swarm” session lasting anywhere between 2-5 days.

Once the team starts to see the requirements shaping up, the PMs will start planning the project so that the design team can work one sprint ahead of development ( e.g. Sprint 16 is dedicated to visual design that developers build in Sprint 17). The product team also plans for a steady cadence of usability testing (e.g. Sprint 15 is testing, Sprint 18 is testing) so that the PM can recruit users and the UX team can run the tests.

Once the team aligns to a solid plan, the team will hold a quick design kickoff with just a basic agenda—no formal design briefs allowed. Attending this first meeting are the designers, product managers and UI developers, who are an integrated part of the product team.

Along the way, they will create some early product specs, but they prefer prototyping to create “living documentation” instead of drafting thick specs documents. Since UI developers are part of the UX team, the close collaboration minimizes the need for paper trails.

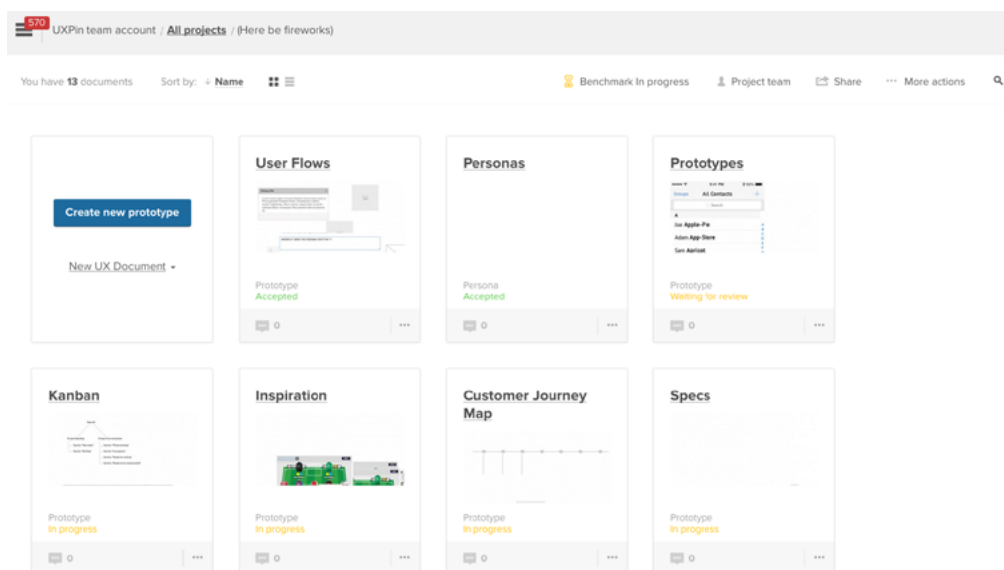
“Documentation doesn’t need to live in a document. You can be nimbler, like Slacking your team a screenshot of your whiteboard,” Daniel says. “To convey more detail, I’ll create a quick [UXPin](#) prototype and share with the team instead of marking up a huge specs document. I can just drag and drop objects from the dozens of libraries to convey the concept. The platform really shines at helping us create collaborative visualizations to help PMs and developers understand the horizontal and vertical requirements.”

After this discovery, the team asks themselves if the prototyped concepts feel viable and feasible. If the answer is no, they'll dive into another sprint for research and exploration (e.g. “[Sprint 0](#)”). As Daniel explains of the discovery process, “A designer’s deliverables is answering these questions, not generating paper documents.”

### Designer Pro Tip

*When planning design sprints, make sure you allow for user research beyond the initial Sprint 0. Work with the product owner to plan at least 1 hour of user research per weekly sprint.*

*As Jared Spool explains, increasing the “[exposure time](#)” to users is the closest silver bullet he’s discovered for product improvement. In fact, one 10-member product team generated a list of 350 quick fixes after visiting 12 customers for 2 hours each.*



Created in [UXPin](#): Managing assets and project status for a recent design sprint

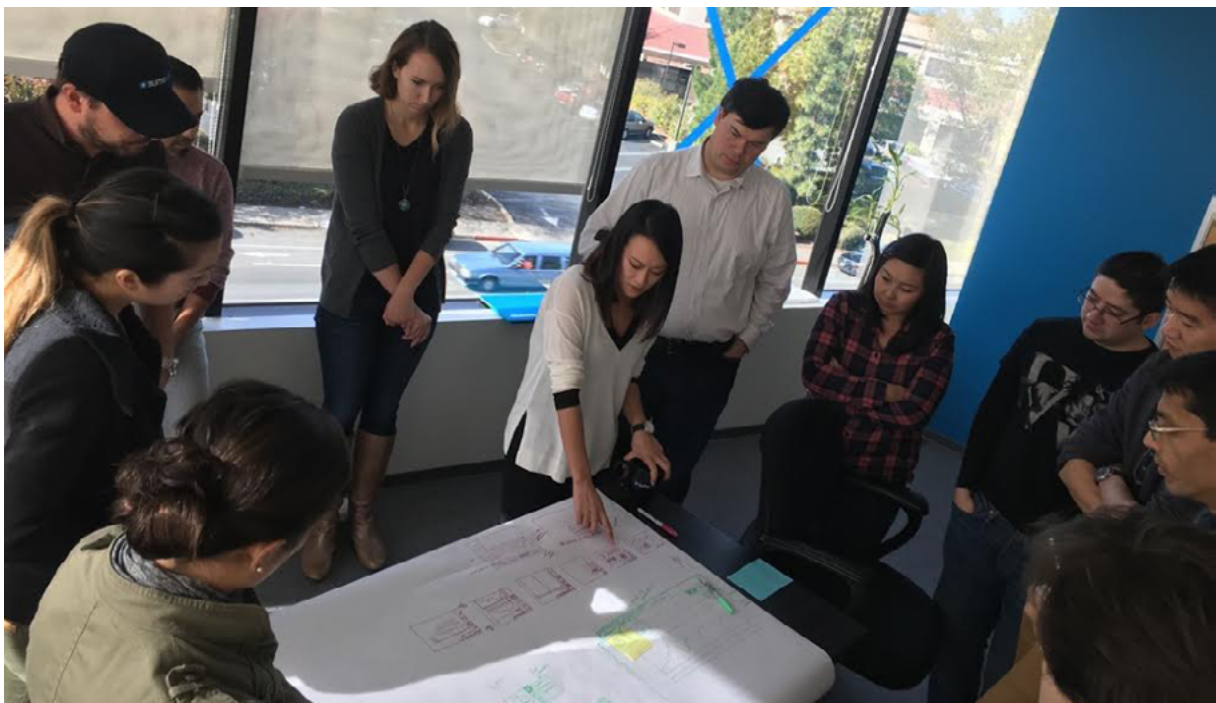


## Deep Design

Sumo Logic's design discipline centers around the idea of diving deep into chunks of work.

Once concepts are approved to be fleshed out further, the engineering and product teams start looking at their overall projects and breaking them into smaller bites.

Within this approach is the sub-discipline of the design—the “Swarm” or “UX Palooza” as they are also called. While the team generally conducts Swarms early in the product development process, they treat the activity as a tool that works even later in design crunch time.



*Photo credit: Daniel Castro of [Sumo Logic](#). Swarm session.*

Every month, the UX team clears their calendar for 2 days (and up to 5), focusing on a specific problem that will help move the overall

project forward. They will also notify stakeholders and subject matter experts to set aside a few hours of time to give feedback on ideas. The Swarms evolved from work sessions where the UX team would spend ~3 hours with a subject matter experts churning on a problem. These sessions were so successful that the design team ended up formalizing the process.

“The Swarm is not a blue skies session; it’s more like a war room,” Daniel explained. “We gather everyone together, regardless of what project folks are working on, and put them on task to solve a certain thing. By focusing intently as a team, we can move projects forward and overcome obstacles faster than scattered 1-hour sessions.”

## 1. The Swarm Process

The Sumo Logic team communicates via Slack, so the first step is to align everyone’s schedules, give the Swarm a name, and build some major hype (and therefore excitement) around the project. The team prefers holding Swarms earlier in the week, such as Tuesdays and Wednesdays (rarely Mondays for a million obvious reasons) so that Thursdays and Fridays are dedicated to hashing out the details.

As noted, all designers jump into the project and help (even if they aren’t already part of the overall work), which lets fresh thinking be introduced into the mix.

The agenda for the swarm will include two to three initiatives at most, with the goal of coming out on the other end of the second

day with something concrete. While the design team is split into two smaller teams to accomplish these goals, the teams are encouraged to cross-pollinate ideas.

Daniel also noted that the key is strategically inviting stakeholders to these sessions—they don't need to be present for the whole time. Focus is the absolute key to preventing design by committee.

A typical 2-day Swarm looks like this:

### **Day One**

- The day starts with a quick debrief.
- Two smaller teams are formed to tackle two projects. Since everyone works in the same room, cross-pollination can organically happen. As Daniel explained, “They hear each other’s ideas and evolve their designs together.”
- First Check-in: Typically after lunch, both teams meet and share their progress so far, discussing obstacles and potential solutions. They may also invite outside stakeholders and SMEs for quick feedback.
- Teams return to work sketching or lo-fi prototyping in platforms like [UXPin](#). Feedback surfaces in real-time within their dedicated Slack channel.
- Second Check-in: Around 4PM, both teams re-huddle and quickly plan their actions for the next day. At this point, the check-in focuses on tracking progress rather than decisionmaking.

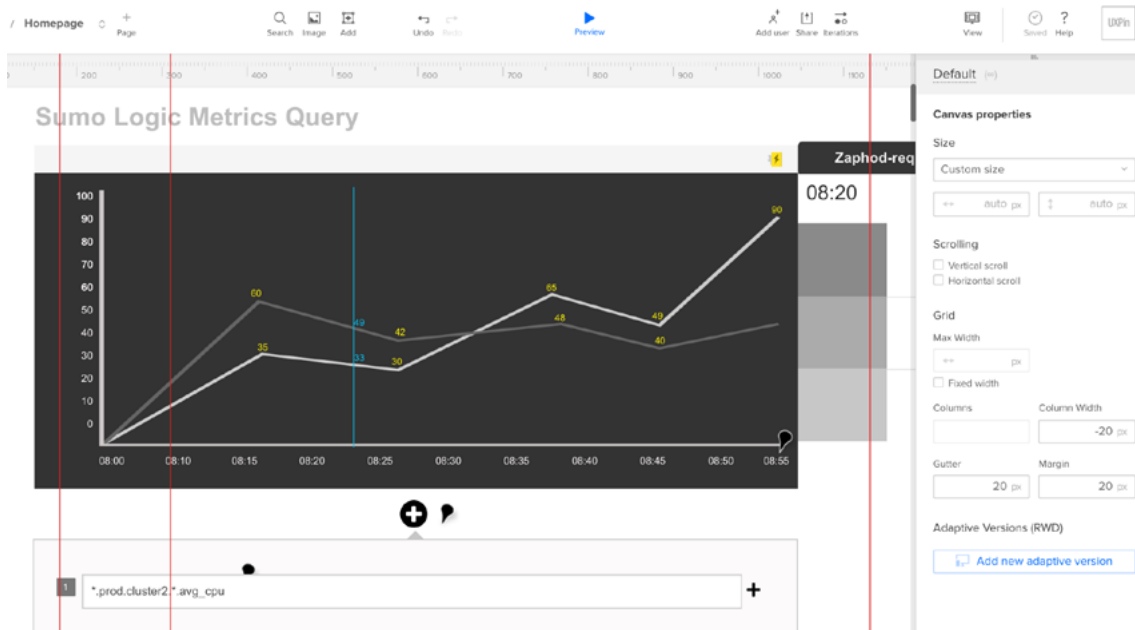
“Day one gives you a good sense of what day two will look like,” Daniel says. “By 5 p.m. you’re fried but excited because the whole team is working together, keeping it light and fun while making major progress. The process has really made us a collaborative group. Designers, developers and product managers alike have been sucked in along the way.”

## **Day Two**

- The day starts with a sanity check on expectations. The second day, as Daniel noted, is “all about the finish line.” For Swarms held later in the design process, the team spends time talking about what kind of visual designs or hi-fi prototypes they need to refine the concepts from the first day.
- Third Check-in: The final checkpoint of the swarm. Typically subject matter experts will return for to give feedback on the refined prototypes. Any fine-tuning will then take place.
- The last meeting is a show and tell, which is less about input than sharing to a larger audience including the VP of Design and other executive stakeholders. The team guides stakeholders to focus on the overall strategy rather than design minutiae. To dive into feedback in more detail with vocal stakeholders, the team will hold ad-hoc 1:1 sessions to give them the right forum.

“You often hear how design doesn’t get the same seat at the table as engineering or sales do at the enterprise level, but Sumo Logic is an example of the complete opposite,” Daniel says. “The fact is

that by publicizing our Swarms and inviting the larger company to our show-and-tells, design has achieved amazing visibility within the entire organization. We immerse the company in design, letting us change the culture by experience rather than trying to preach.”



*Sumo Logic prototype created in UXPin for their [Unified Logs Metrics product](#)*

By holding high-visibility Swarms, the UX team is able to showcase solutions to business problems in as little as 2 days at any point in the product development process. In doing so, the quick wins also earn buy-in for additional research or iteration.

UX is therefore perceived less as a “soft” social science and more as a bottom-line force multiplier.

## 2. Iteration & Testing

After the Swarm session, the design team returns to the sprint schedule. They will continue iterating and testing their designs with users.

Sumo Logic is also unique in how they run their usability testing sessions.

For users who want to test products but can't be accommodated in the schedule, the design team will actually invite them to observe tests alongside the designers. In doing so, they've revealed surprising insights. For example, a test participant might say out loud that they love seeing a ton of data in a new dashboard, but the 3 users watching might mention the density is overwhelming.

Once everyone is comfortable with the design, the project moves into development sprints. The UX team stays involved with development as the project moves toward the finish line.

Even in development, sprints still account for usability testing. Given that Sumo Logic launches features incrementally, the team can check in and iterate regularly, running additional customer interviews and staying in close contact with customer support throughout the process.

## Conclusion

In closing, let's summarize the takeaways from Sumo Logic's design process:

- Participatory design is the strongest form of UX evangelization.
- Planning for design work a sprint ahead of development allows more time for work sessions and ad-hoc user research.
- More focused workshops (e.g. Swarms) improves visibility and efficiency of the product team than scattered work sessions.
- Inviting vocal stakeholders to 1:1 feedback sessions isolates risk of design by committee.

“Communication is the bloodline of design,” Daniel says. “You can make the greatest design, but if you communicate poorly, your ideas will fail. At [Sumo Logic](#), we've built a culture where designers, developers and product managers work together, collaborating every step of the way in a focused manner. The result has been great products for our customers and a really rewarding work experience for our teams.”

# Structured Participatory Design in the Enterprise

3M Health Care

With \$30 billion in revenue and 90,000 employees worldwide, [3M](#) has built a thriving business over the past 100+ years on one core principle: applying science in collaborative ways to improve people's lives.

The 3M Health Care Business Group's UX team follows the same core values of collaboration and transparency in their design work. Their projects include physical products such as [smart inhalers](#) and digital products ranging from enterprise medical coding software to internal sales tools.



Andy Vitale, Lead Interaction Designer at 3M Health Care



“Our design approach is to regularly connect with colleagues in other disciplines like marketing and R&D as strategic partners,” says Andy Vitale, Lead Interaction Designer at 3M Health Care. “When our UX and business teams work together with clear vision and goals, we find greater success through a shared commitment to authenticity.”

Andy’s team currently supports 6 different divisions of the Health Care Business Group at 3M; Health Information Systems (e.g. billing and hospital quality of care), Critical and Chronic Care, Food Safety, and Drug Delivery Systems, Infection Prevention and Oral Care (dental and orthodontic).

His small team tackles a big list of projects, supporting both new products and long-established brands.

In a complex space where large companies struggle with scaling UX methodologies, 3M is a refreshing contrast to the waterfall-focused and engineering-driven enterprise. Their product development process reflects one of the most mature UX models we’ve seen to date.

Due in part to the strong design culture built in the past few years since Chief Design Officer Eric Quint joined the organization, [3M Design](#) follows a disciplined UX process rooted in co-design and customer validation.

“Show, don’t tell” is a philosophy that drives all the participatory design activities you’ll see below.

## Team Structure

Andy Vitale's 6-person UX team for 3M Health Care covers the following disciplines:

- Interaction Design
- User Research
- UX Strategy
- Information Architecture
- Visual & UI Design
- Content Strategy
- Front-End UX Development

Each team member's skillset is **T-shaped**. While they may specialize in certain areas, each person can also help cover other competencies as needed. Andy, for example, specializes in interaction design and user research but can also assist when needed in some of the other design disciplines.

## Initial Research

At 3M, product and feature solutions can come from multiple sources, including the business, technical or design teams. The 3M Health Care Design Officer also meets with the division leadership to prioritize projects based on resourcing, current status, and expected impact.

Once a project starts, the first step for the UX team is to review any existing research for context around the design problem. Stakeholders provide the following information to designers on an ongoing basis:

- **Market research** – Information around the market landscape and how existing or future 3M solutions could fit.
- **Industry insights research** – Information specific to the business division that identifies opportunities.
- **Voice of customer research** – Any initial user research conducted by the business.

By reviewing the three sources of research, the design team better understands the current status of the project and the desired target users. The information also provides talking points for stakeholder interviews and helps uncover points of validation for future field visits with customers.

## Stakeholder Interviews

After reviewing the existing research, Andy's team prepares a short discussion guide for stakeholder interviews. The stakeholder interviews help the team understand business requirements and informs their first draft of the design brief.

Stakeholder interviews are usually conducted on an individual basis, lasting between 45-60 minutes per session. Occasionally, the team

might conduct department interviews instead (e.g. 2-3 marketing people in one interview), but they don't hold cross-departmental group stakeholder interviews.

The 1:1 format allows Andy's team to thoroughly explore each person's subject matter expertise and vision of success for the project. If more information is required, the designers are free to schedule follow-up interviews.

When conducting stakeholder interviews, consider [Kim Goodwin's guidelines](#) for each department:

- [General Stakeholder Interview](#)
- [Marketing Stakeholder Interview](#)
- [Engineering Stakeholder Interview](#)
- [Sales Stakeholder Interview](#)
- [Executive and SME Stakeholder Interview](#)

## Customer Journey Mapping Workshops

With a clearer picture of business requirements, the UX team conducts a customer journey mapping workshop to plot out the user's perspective before, during, and after service:

- **Emotions** – Any moments of satisfaction, anticipation, and frustration.

- **Touchpoints** – Every step of the journey that the user interacts with the company
- **Channels** – Where interactions occur (e.g. online, mobile app, etc.).
- **Moments of Truth** – Any particular touchpoints or actions that generate lasting frustration or satisfaction.

The designers typically map the journey out on a large board, while stakeholders add their thoughts with Post-it® Notes next to each step. Together, the team then discusses all of the perceived roadblocks and opportunities.



*Design at 3M Health Care*

“We try to build the customer journey collaboratively before we get too far ahead of ourselves,” Andy explains. “Before we talk to customers, we want to make sure we’re all on the same page internally as far as understanding the problem and opportunity.”

After the first half-day “all-hands” customer journey mapping workshop, the design team will then follow up with two-hour sessions as needed. Once the whole exercise is complete, the UX team sends a summary email prioritizing the project goals and any newly-revealed constraints.

For efficiency, Andy recommends first sending out a clear agenda with timeboxes for each part of the workshop.

## Contextual Inquiries

Following the customer journey mapping, the UX team conducts on-site field research, which could last up to several days with multiple users at different organizations.

Because Andy’s team designs enterprise products, they speak with the end-users, managers, and software purchasers. The goal of the on-site visits is to validate all the insights generated so far in the initial research analysis and customer journey mapping.

“Empathy mapping is a critical part of our work,” Andy explains. “From the beginning, we’re doing customer field visits to observe our users in their natural habitats. We’ve found bringing customers in for interviews wasn’t enough—we need to be where they live and work to truly understand their issues. And we don’t want to just hear their pain points, we want to hear their needs and desires.”

During onsite visits, the team gathers customers together for conversations about their needs and solutions based on a prepared discussion guide. Andy's team typically stay onsite for a few days, with hour-long group discussions and many 1:1 observations (30-60 minutes) of individuals at work.

“We like to observe our users doing their normal tasks,” Andy says. “They tend to get comfortable with us looking over their shoulder. It's just so important to understand the reasoning behind what they do rather than just their steps.”

At the end of each day, all of the designers will sort their notes into a shared template. The designated research lead then sorts through the data to remove duplication and identify patterns.

## Building the User Personas

Once the team returns to their office at 3M, the design team updates assumptions by transforming the new information into personas for user groups.

These personas are shared with the business team, and everyone works together to align on accuracy. Depending on the project timeline and status of updates, the personas can range in detail from [lightweight](#) to [highly detailed](#).



At this point, the team will also update the design brief to reflect new user requirements uncovered in the field visits.

“By looking at these personas together as a design team, we can see the overlaps in needs between different user groups,” Andy says. “From there we can begin sketching solutions around the initial hypotheses and core features.”

Once the design team has finished more refined sketches of the feature ideas, they present the concepts to key internal stakeholders with all consolidated research information available to everyone in a cloud folder.



*Design at 3M Health Care*

## The Design Brief

All the research will ultimately feed into the formal design brief, which serves as a rallying point for design.

While the first draft was created after the stakeholder interviews, the design brief takes final shape after the field research. The design brief allows for alignment on design direction based on all the prior activities:

- Business needs explored through stakeholder interviews
- User needs validated through field research
- Overall UX principles based on brand guidelines and sketching
- Project timeline

Once all internal stakeholders agree to the brief, the team dives into more detail by prioritizing features.

## Feature Prioritization

With involvement from the developers, the UX team prioritizes all features based on feasibility and impact against the design brief.

A spreadsheet acts as an early product roadmap by breaking down the features by category, owner, and schedule (in-scope, later sprints, or move to backlog). The team also includes tabs for technical, UX, and business notes.

In order to visualize requirements for stakeholders and developers, the UX team also creates atomic models (in Illustrator) mapping out the page flows and taxonomies. Since the models will evolve, the team doesn't want to overwhelm stakeholders with a complex tree of 50-60 features across the whole system. Instead, designers only share high-level interactions between 10-12 core feature sets.

Once the team finishes their work, they hold a 2-hour workshop for stakeholder feedback on the following items:

- Spreadsheet of prioritized features
- Relationships between feature sets outlined in atomic models
- User research and market research supporting the above decisions

While priorities may shift, Andy has found that bringing along research and referencing the journey map helps guide strong opinions towards a common understanding.

“Storytelling is one of our greatest strengths as designers,” Andy says. “By explaining how each feature impacts the user along touchpoints of the customer journey map, we create a common reference point for stakeholders. They start to see how their decisions impact the user, and identify the path to the right solution.”

For small projects, the spreadsheet and atomic models are generally sufficient as product and technical documentation. If a product needs to move through regulatory or legal review, a business stakeholder or product manager will need to create more detailed documentation.

## **User-Validated Design Sprints**

Once full alignment is reached, the entire team schedules the design sprints. Earlier sprints are dedicated towards high-impact features and quick wins.

Before the first design sprint starts, the team reaches out to a core group of users (typically 8-12) to schedule regular usability testing.

3M Health Care’s UX team then follows an alternating 1-2 week sprint cycle of design and user testing for feedback and validation. Starting with low-fidelity prototypes, the design team increases the fidelity as their concepts begin to solidify and the users are more comfortable with the design sprint process.



*Design at 3M Health Care*

“We usually build and test prototypes within that 40-80 hour duration,” Andy says. “We understand our user’s time is valuable and appreciate that they are willing to spend time working with us.”

The overall length of the project varies widely depending on whether the project is an update to an existing product or an entirely new offering.

The design and testing cycles typically happen in a “rinse and repeat” format before they move into development. To keep everyone on track, the whole team also participates in daily standups.

For the sake of efficiency, the 3M Health Care team uses remote testing along with satisfaction surveys. Along the way, they communicate regularly with their core business team and adjust the design and technical requirements as needed.

Despite the different project lengths and scopes, the commitment to customer testing and team collaboration helps define the final design.

“Our basic methodology is always the same: we put the right people in the room, work together to solve problems, and make sure the customer’s voice is heard,” Andy explains. “The results are increased customer satisfaction and ultimately, a real seat at the table for UX to impact the organization.”

## Conclusion

3M Health Care’s structured process shows how enterprise companies can practice collaborative design amidst complexity:

- Check every design problem against initial research before diving into a full kickoff.
- Validate existing research with on-site customer interviews.
- Involve stakeholders in co-design sessions to sketch out ideas, but empower designers to make the key decisions.
- Align the larger team to a formal design brief informed by market and user research.
- Adjust design sprint length based on iteration stage.
- Alternate each design sprint with a usability testing sprint.

## Next Steps

Successful design processes can range from the more organic framework practiced by Slack to the highly structured process of 3M Health Care.

As all these companies have shown us, great product design isn't a result of the best process – it's the result of the right process.

If you found this guide useful, here's some more resources worth checking out:

- [HBO's New Shorthand for Design Collaboration](#)
- [Lean vs. Agile UX: Is There a Difference?](#)
- [\*UX Design Process Best Practices\*](#)
- [\*The Guide to Agile UX Design Sprints\*](#)





## ENTERPRISE



### **Create and Collaborate.**

Translate requirements into product features that resonate with customers.



### **Simplify your Process.**

Centralize projects and people into one clear workflow.



### **Empower your Team.**

Guide creativity with a common design language.

**Take a look**